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News Bulletin of The Entomological Society of Victoria Inc.

THE ENTOMOLOGICAL SOCIETY OF VICTORIA (Inc)

MEMBERSHIP

Any person with an interest in entomology shall be eligible for Ordinary membership. Members of the Society include professional, amateur and student entomologists, all of whom receive the Society's News Bulletin, the Victorian Entomologist.

OBJECTIVES

The aims of the Society are:

- (a) to stimulate the scientific study and discussion of all aspects of entomology,
- (b) to gather, disseminate and record knowledge of all identifiable Australian insect species,
- (c) to compile a comprehensive list of all Victorian insect species,
- (d) to bring together in a congenial but scientific atmosphere all persons interested in entomology.

MEETINGS

The Society's meetings are held at the 'Discovery Centre', Lower Ground Floor, Museum Victoria, Carlton Gardens, Melway reference Map 43 K5 at 8 p.m. on the third Tuesday of even months, with the exception of the December meeting which is held on the second Tuesday. Lectures by guest speakers or members are a feature of many meetings at which there is ample opportunity for informal discussion between members with similar interests. Forums are also conducted by members on their own particular interest so that others may participate in discussions.

SUBSCRIPTIONS

Ordinary Member	\$30 (overseas members \$32)
Country Member	\$26 (Over 100 km from GPO Melbourne)
Student Member	\$18
Electronic (only)	\$20
Associate Member	\$7 (No News Bulletin)
Institution	\$35 (overseas Institutions \$40)

Associate Members, resident at the same address as, and being immediate relatives of an ordinary Member, do not automatically receive the Society's publications but in all other respects rank as ordinary Members.

LIFE MEMBERS: P. Carwardine, R. Field, D. Holmes, T. New, K. Walker, D. Dobrosak.

Cover design by Alan Hyman.

Cover photo: *Megacmonotus magnus* taken at the Bush Blitz at Ned's Corner in November 2011 by Ken Harris. For more information see p.7.

Minutes of the Entomological Society of Victoria General Meeting,
Saturday 7th December, 2013 at Jells Park, Victoria

Members: Peter Carwardine, Peter Marriott, Linda Rogan, Patrick Honan, Carol Page, Ken Harris, Fay Harris, Frank Pierce, Trevor Harris, Ray Besserdin, Marilyn Hewish, Axel Kallies



Fig. 1 Axel Kallies, Alma and Ray Besserdin preparing their delicacies for the evening. Image courtesy of S. Curle

pass through Victoria, Saturday turned out to be a lovely warm day.

Our meeting at Jells Park was a first joint venture with the Friends of Dandenong Valley Parklands who had done some groundwork prior to the meeting and managed to reserve the shelter and bbq!

We started the evening with everyone arriving and settling into good old fashioned (electric!)...



Fig. 2 Some of the evening's attendees listening to Patrick Honan's speech Image courtesy of S. Curle

Editors: 1 Mei Chang, Alan Brown, David Lumb, Wendy Lum, Brian Loft, Michael Marbach, Dean Hewish, Peter Rogan, Alma Besserdin, Michal Balint and her grandchildren Lily and Ethan.

Apologies: Margaret Endersby, Ian Endersby, Peter Lillywhite, Ken Walker, Maik Fiedel, Kirsty-Lee McBean, Anh Phung, Mike Halsey, Kaye Proudley, Bryan Haywood, Graham Patterson, Ken Gosbell, Penny Gullan, Graham Forbes, Charlie von Dijk, Tony Morton, Euge Cascarelli, Dave Meehan, James Neave

We had been lucky with the weather this week. Having had a cold snap

bbqing and consuming sufficient food to keep us going through the night. Although the weather had been kind to us during the day, we were expecting it to cool down quite quickly in the evening

1. Correspondence:

There was no correspondence reported at the meeting.

2. Treasurer's Report:

Account Balances-

General a/c: \$ 5,888

Le Souef a/c: \$5,634

Publishing a/c: \$17,672

Members: 111

Unfinancial Members: 0

New membership application received for Mackenzie Kwak of Panton Hill,
P: P. Marriott, S: P. Carwardine

3. Le Souef Award presentation: to Peter Marriott

Patrick presented the society's most coveted Le Souef Award for 2013 to Peter Marriott.

The Le Souef award is named after John Cecil Le Souef, better known as 'Zoo' Le Souef. He was born at Melbourne Zoo (hence the name) in 1905, and perhaps his most significant contribution to entomology was to re-establish the Entomological Society of Victoria (ESV) in 1961 after it had fallen into abeyance for the previous 20 years.

Following his death in 1982, his collection of 15,000 insects was donated to the Australian National Insect Collection and, within the ESV, plans were made by the Council to establish a memorial in his name. In the same year, the Le Souef award began, recognising an amateur entomologist who has made a notable contribution to entomology in Victoria and Australia.

The Le Souef award stands out as the best known award in Australia for encouraging amateur entomologists. An indication of its significance is the nominations received from other entomological societies around Australia.

Peter began as a volunteer in the Entomology Department at Melbourne Museum in 1996 and has since catalogued more than 31,000 specimens. He has had a profound impact on the study of moths in Victoria, both in regard to the collections themselves and in raising the profile of moths amongst amateurs and the general public.

In 2000, whilst volunteering at the Museum, Peter began a series of field guides on moths, envisaging a final total of 15 books. So far four books have been published, along with accompanying CDs and email updates, covering 13 families and more than 600 species.

He has since gathered together a team of authors and editors to expand the resources available. In his various capacities, Peter has long mentored young people and instilled enthusiasm in many people under his leadership. This enthusiasm for moths has led to the accumulation of new records, range extensions and even new species. As recognition, the zygaenid moth *Polianthus marriotti* was named in his honour.

Peter joined the ESV in 2002, became Vice-President in 2003 and President from 2004-2013. He remains a Council member and continues to make an enormous contribution, both to the Council itself and as mentor to the current President.

The Le Souef award is decided on by a subcommittee of the ESV Council, who took into consideration the following:

- The work Peter has done for the Museum collection which will stand for a long time to come;
- Publication of the details of new and rare species;
- Spreading the good word about entomology far and wide through assistance with identifications;
- In particular his encouragement of juniors;
- The fact that all his work has been in an amateur capacity, including his publications;
- His Moths of Victoria book series and his holistic approach to promoting entomology in Victoria. Further information on Peter's achievements in Entomology are further delineated in the article on p.130 of VE 43(4).

The committee agreed unanimously that Peter was a worthy recipient of the Le Souef award and recommended to the Council that the value of the award be increased from \$250 to \$400.

Peter's contribution to entomology goes beyond the points listed above, and the award means much more than just its monetary value. In the history of the award, only 13 entomologists have received it, and Peter is a particularly worthy recipient.

On behalf of the Council and members of the ESV, Patrick commended Peter for all his remarkable achievements so far, congratulated him as a recipient of the award, and wished him well with his future work.



Figure 3 Le Souef award being presented to Peter Marriott by Patrick Honan, President, Entomological Society of Victoria.
Image courtesy of Marilyn Hewish

After the formalities of the evening, David Lumb, Secretary, Friends of Dandenong Valley Parklands, gave everyone a very interesting historic tour of Jells Park whilst those with moth lamps went about setting them up for the evening.

Upon returning from the walk, with much interest in the newly learnt history of the park, we then made our way down into the wilderness part of Jells Park where the moth lamps had been set up.

Whilst the weather had been kind to us during the day, it began cooling down quite rapidly. For all that, for a small island in the middle of suburbia, we had many interesting species that came down to the light.

The cossid moths *Eudoxyla secta* occurred in small numbers. They were tame and tolerated being handled by the children. Of the moth species that were observed, *Hyperlropha satrapella* is unusual, there was a very dark *Cryptophasa rubescens*. Some firsts for Peter Marriott include *Lichenaula onychodes*, also *Metapherna isomacra*, *Taxeotis intextata*.

It was hard to get an accurate count for the evening but we believe there would have been well over 100 species. One member in particular was keeping a count of the number of Bull Ants (including the one that crawled up his trouser leg); there was at least one nice cicada, a number of yellow ichneumon wasps and many species of wasps and moths of many sizes.

Figure 4 The rarely seen *Habroscopa iriodes*.
Image courtesy of P. Marriott



Figure 5 Wendy Lumb, Lily and Ken Harris at one of the moth lights
Image courtesy of S. Curle

Order Lepidoptera

COSSIDAE

Endoxyla secta

COSMOPTERIGIDAE

*Linnaecia cirrhosema**Macrobathra ceramobola**Macrobathra chrysotoxa*

GELECHIIDAE

Ardozyga furcifera

HYPERTROPHIDAE

Enpselia satrapella **Hypertropha chlaenota*

OECOPHORIDAE

*(Cryptolechia) triphaeuatella**Antipteria trilicella**Barca atmophora**Chezala brachypepla**Deloxocha ochrocansta**Enoplidia simplex**Enchaetis metallota**Garrha mellichroa**Garrha ocellifera**Garrha repandula**Habroscopa iriodes**Machetis aphro bola**Philobota pedetis**Phylomictis maligua**Plectobela ecliptica**Zacorus carus*

XYLOCRICTIDAE

*Cryptophasa rubescens**Lichenaula arisesma**Lichenaula onychodes*

GEOMETRIDAE

Dysbatus sp. (1)*Melanodes authracitaria**Platotis cognata**Anstroterpna* sp. (1)*Prasinocyma semicrocea**Chloroclystis testulata**Eccymatoge callizoua**Epicygne rubropunctaria**Epyaxa subidaria**Epyaxa subidaria**Minoa euthecta**Plurissogonus laticostata**Epidesmia hypanaria**Taxeotis intextata**Idaea philocosma*

NOCTUIDAE

*Athetis teunis**Rhapsa siccatalis**Mythimna convecta**Persectania ewingii**Helicoverpa punctigera**Chrysodeixis argentifera*

NOLIDAE

Uraba ligens

LYCAENIDAE

Zizina labradus

NYMPHALIDAE

Vanessa kershawi

PTEROPHORIDAE

Stangeia xerodes

•

CRAMBIDAE

*Hednota pleniferellus**Hygraula nitens**Nacoleia rhoeoalis**Nomophilta corticalis**Tipanaea patinella*

PYRALIDAE

Callionyma sarcodea

TINEIDAE

Metapherna isomacra

TORTRICIDAE

Strepsicrates macropetana

(Conchylis) subfurcatana

Epiphyas astlworthana

Thrinophora lignigerana

PLUTELLIDAE

Plutella xylostella

* This ID is provisional on further confirmation.

Eight species remain unidentified at the time of publication and have not been included. Where species without a species name are given, the number refers to specimens figured in the Moths of Victoria books.

Other Species Listed by Ken Harris:

Trichoptera:	Calamoceratidae	<i>Anisocentropus bicoloratus</i>
Coleoptera:	Scarabaeidae	<i>Aphodius sp.</i>
Diptera:	Tipulidae	<i>Leptotarsus constrictus</i>
Neuroptera:	Chrysopidae	<i>Mallada signatus</i>
Hymenoptera:	Ichneumonidae	<i>Netelia produlta</i>
Hemiptera:	Derbidae	<i>Saccharodite chrysonoe</i>



Figure 6 Sometimes, you just have to capture them where they are,
Patrick Honan
Image courtesy of S. Curle

Special thanks to Friends of Dandenong Valley Parklands for contributing to the success of the evening, Ken Harris and Peter Marriott who set up their lights for the evening.
(Also thanks to Steve Curle for organising the evening, Ed.)

The evening concluded with the last of the moth-ers packing up around 23:00.

2014 meeting dates

Council meeting dates: March 18th, May 20th, July 15th, September 16th, November 18th

General Meetings

A number of people have been informally meeting up at Michelinos Trattoria Restaurant prior to general meetings that are held at the museum. Any members who would like to meet at Michelinos – at around 18:00 – are welcome to join us for a pre meeting chat / food.
www.michelinos.com.au/ 69 Pelham Street Carlton VIC 3053 (03) 9663 3365

2014:			
February	18 th	General Meeting	Two new species of native psyllid - Dr Martin J. Steinbauer F.R.E.S
April	15th	AGM	A Field Guide to Victorian Butterflies - Ross Field
June	17th		Members' presentations
August	19th		The Lord Howe Island Stick Insect - Rohan Cleave
October	21st		Members' presentations
December	9th		Excursion date and venue to be arranged

Megacmonotus magnus (McLachlan, 1871)

Photo front cover by Ken Harris

Megacmonotus magnus is a lacewing, one of the Neuroptera. It belongs to the Family Ascalaphidae, commonly known as Owlflies. They have conspicuously large eyes compared with all other lacewings. They are quite large and as the adults hunt on the wing at dusk, are sometimes mistaken for dragonflies. Dragonflies however have very short stiff antennae. Owlfly antennae are long and have a pear-shaped bulbous tip. This easily distinguishes them from all other lacewing families. In the Myrmeleontidae, the Antlions, many species are similar in size to Owlflies, but they have short clubbed antennae and much smaller eyes. Owlfly larvae are active predators, lying in wait among leaf litter and other debris and running about on the ground, unlike Antlions, whose larvae mostly live at the base of a conical pit trap.

The male of *Megacmonotus magnus* has a conspicuous slender hump just behind the wings, with a tuft of black hairs on the tip. All *Megacmonotus* males have these humps, and their shape is useful in determining the species.

Megacmonotus magnus is one of the commoner Owlflies in Australia and has a wide distribution. It is found in all mainland states and the Northern Territory. I had been unable to find any records from Victoria, until the Bush Blitz at Ned's Corner in November 2011. On 28th and again on 29th November, several male *Megacmonotus magnus* came to the mercury vapour light, providing the first Victorian records for the species.

Additional Distribution Records for Victorian Dragonflies (Insecta: Odonata)

IAN ENDERSBY Continued

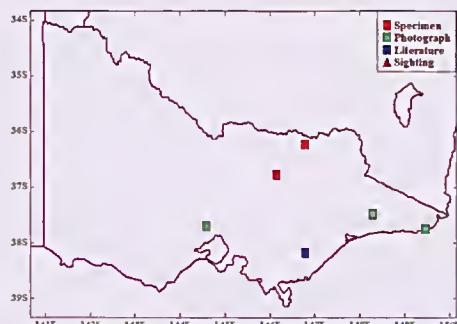


Fig. 37 Distribution of *Dendroaeschna conspersa*

thorax are probably the best way to confirm the species in the field. Substantial horns on the postocular lobes of the larvae are quite distinctive. It is known from lowland streams and the new information is consistent with this. Figs. 39-41 are of females and Fig. 42 is a male. The large musculature associated with a strong endophytic ovipositor can be seen in Fig. 41 and Fig. 40 shows the female, half-submerged, laying eggs into an underwater log.



Fig. 39 *D. conspersa* Snowy River Photo: R Richter



Fig. 38 *D. conspersa* Snowy River Photo: R Richter

Fig. 40 *D. conspersa* Snowy River Photo: R Richter



Fig. 41 *D. conspersa* Elusive Lake Photo: Geoff Walker



Fig. 42 *D. conspersa* Melton Photo: Nora Peter

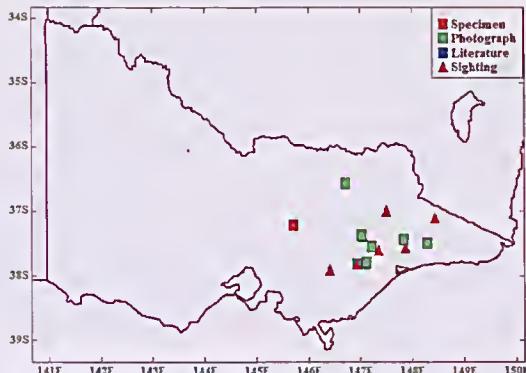


Fig. 43 Distribution of *Diphlebia nymphoides*



Fig. 44-45
D. nymphoides
 female Avon River
 Photo: Duncan
 Fraser



Diphlebia nymphoides (Figs. 43-48)

This stream dwelling species is distributed on the eastern coast of Australia from southern Queensland to eastern Victoria. Two early records from Alexandra were the only ones from Victoria until the recent spate of photographs and sightings. Although a damselfly, this genus perches with its wings outspread.

The black dorsal lines are much more conspicuous than those of its Victorian congener *D. lestoides*. Larvae are quite distinctive with their saccoid gills but the two species are separated, with difficulty, from the relative dimensions of their prementa. *D. nymphoides* inhabits slower flowing waters than *D. lestoides* suggesting that the early specimens were taken from the Goulburn River. Fig. 46 shows a male transferring sperm to its secondary genitalia prior to mating. In most species this phenomenon occurs after a tandem has formed and the female has indicated acceptance.



Fig. 46 *D. nymphoides*
Freestone
Photo: R. Richter



Fig. 47 *D. nymphoides*
Abercrombie
Photo: R. Richter



Fig. 48 *D. nymphoides*
Snowy River
Photo: R. Richter

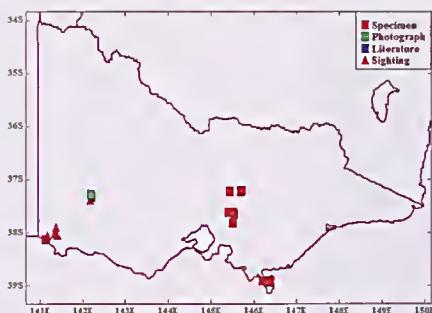


Fig. 49 Distribution of *Hemiphlebia mirabilis*

pendages which are used apparently by both sexes for signalling (Fig. 51). The flight season at any one locality seems to be relatively short.

Hemiphlebia mirabilis (Figs. 49-54)

Because of its endangered status and its phylogenetic uniqueness this damselfly has been monitored more closely than any other in Victoria. Originally known only from Alexandra and in the Yarra Valley, it is now probably extinct in both places. It has since been discovered at Wilsons Promontory, in northeast Tasmania, and on Flinders Island. Over the last five seasons Reiner Richter has located a number of new populations in western Victoria and southeast SA. It is a cryptic species well camouflaged amongst the reeds which its body resembles. It is best revealed by the enlarged white anal appendages which are used apparently by both sexes for signalling (Fig. 51). The flight season at any one locality seems to be relatively short.



Fig. 50 *H. mirabilis* female Grampians Photo: R. Richter



Fig. 51 *H. mirabilis* Long Swamp Photo: R. Richter



Fig. 52 *H. mirabilis* Long Swamp Photo: R. Richter



Fig. 53 *H. mirabilis* female Long Swamp Photo: R. Richter



Fig. 54 *H. mirabilis* female Grampians Photo: R. Richter

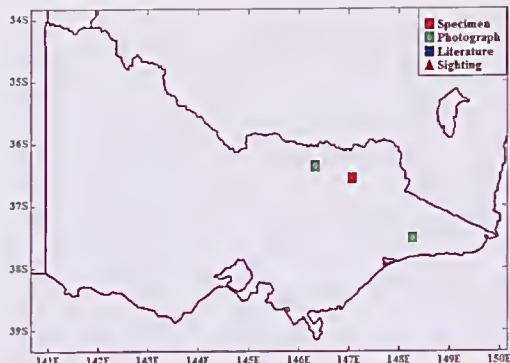


Fig. 55 Distribution of *Nannophlebia risi*

Nannophlebia risi (Figs. 55-60)

The Victorian occurrence of this species was based on a single specimen taken at the Kiewa River, Killara in 1978. Its main distribution is along the eastern coast of Australia from mid NSW to northern QLD. The last abdominal segments are swollen and the perching posture is quite distinctive which has led to the common name of Archtail.



Fig. 56 *N. risi*
Wangaratta
R. Richter



Fig. 57 *N. risi*
Wangaratta
R. Richter



Fig. 58 *N. risi*
Balley Hooley
Geoff Walker

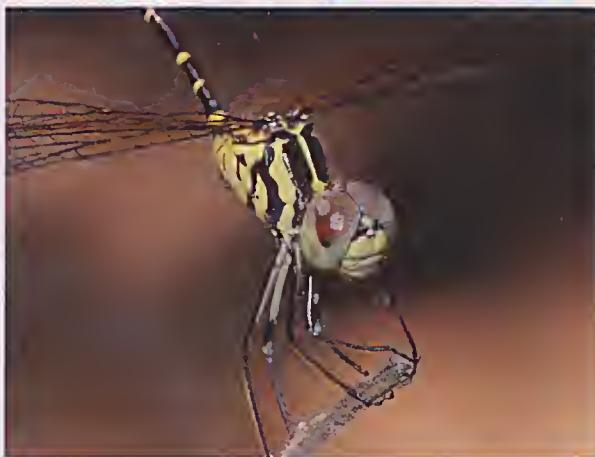


Fig. 59 *N. risi* Wangaratta R. Richter



Fig. 60 *N. risi* Wangaratta R. Richter

Unusual butterfly observations for south-east South Australia from 2010 to 2012

Bryan Haywood
CMB, Moorak, SA, 5291

Abstract

Numerous butterfly species seldom reported in the south-east of South Australia were observed during an above average rainfall period from 2010 to early 2012 experienced in central, eastern and southern Australia. The species observed included Chequered Swallowtail *Papilio demoleus*, Glass-wing *Acraea audromacha*, Tailed Emperor *Polyura semperi*, and Small Grass-yellow *Eurema smilax*. This influx of 'out of normal breeding range' records has been influenced by similar high rainfall events in the past including the periods around 1917, 1955 and 1974. A breeding resident Spotted Jezebel *Delias aganippe* was also observed during this period in larger numbers than normal. Maps showing records of all interstate species and rainfall charts in significant years are provided.

Introduction

Extra-limital records can be an exciting component of nature observation. Knowing the extremities to a species' range (breeding or non-breeding) is a motivating factor driving field naturalists to discover new colonies outside a previously known area of occupation. Southern South Australia and south-western Victoria have received influxes of butterflies from intra/inter-state documented on numerous occasions since natural history records began in the late 1800s, but why? Is it simply a matter of good breeding years encouraging many wandering off outside their normal areas, or are there climatic driven influences that stretch outside one human lifetime to another, therefore going somewhat un-noticed or deemed extraordinary. Unlikely,...when you follow the Long Paddock Variable Rainfall charts through and compare previous years of unusual butterfly records with extreme rainfall events you begin to see a pattern.

Quick (1975) documented a swathe of species outside their normal areas (in southern Victoria) from 1972-74 and recalled a previous event occurring in 1955. Hatch (1977) followed on from Quick (1975) and reported on eastern states species finding their way to Adelaide (SA) in 1973 to 1975. Since this time, the next notable period of well-above-average to extremely-high rainfall affecting most of eastern, northern and southern Australia occurred from the 2010 to 2012 (Figure 1 & 2). Dunn (2011) promptly detailed observations in southern Victorian during this period but this time also detailing numerous other years previous to 1955 where unusual records occurred, including 1917. SA Museum data also confirmed these years (from Dunn, 2011) with records of *P. demoleus* captured in SA (mainly Mount Lofty Ranges) in 1921, 1955 and 1973 and a specimen of White Migrant (*Catopsilia pyranthe*) captured by K. Alcock of Naracoorte (SA) was in 1955 (Grund, 1997).

Rainfall maps from the Long Paddock website detail the rainfall received throughout Australia. Maps show rainfall ranked against historical records from 1890 to present. The ranking is expressed as a percentile whereby a percentile rank of 0-10 (Extremely low rainfall) indicates that rainfall in that year ranks within the lowest ten per cent of rainfall recorded at a location (Long Paddock, 2013).

This source of rainfall data (Long Paddock website) offers an insight to the past, showing where areas of drought have occurred through to areas affected by extremely-high rainfall in any part of Australia. Analysing these maps with biological data appears to show clear correlations between migrations/movements and/or presence of fauna (not excluding vertebrates) in areas outside of their normal breeding areas and/or previously documented range.

Observations included in this paper during the 2010 to 2012 period were generally opportunistic, however several locations are regularly surveyed for butterflies by the author.

Results Table 1

Table 1 displays all records of the author and/or reported by local enthusiasts along with a map (Figure 3) showing their relative proximity to each other.

Date	Common Name	Scientific Name	No.	Location	Observer/s
12-Dec-10	Chequered Swallowtail	<i>Papilio demoleus</i>	1	Piccaninnie Ponds Conservation Park (SA)	BTHaywood & RRighter
12-Feb-11	Chequered Swallowtail	<i>Papilio demoleus</i>	1	Poyntz St, Naracoorte (SA)	KMAcock
14-Feb-11	Chequered Swallowtail	<i>Papilio demoleus</i>	1	Medhursts Road, Kalangadoo (SA)	BTHaywood
23-Feb-11	Chequered Swallowtail	<i>Papilio demoleus</i>	1	Penambol Conservation Park (SA)	BTHaywood
07-Mar-11	Chequered Swallowtail	<i>Papilio demoleus</i>	1	The Bluff to Woolwash Corridor (SA)	BTHaywood, D & W Trudgen
14-Mar-11	Chequered Swallowtail	<i>Papilio demoleus</i>	1	Bray (SA)	KBell, JHaywood, AJones & HBawden
14-Mar-11	Chequered Swallowtail	<i>Papilio demoleus</i>	2	Lake George area, Beachport/Robe Rd. (SA)	Al Jones & HBawden
28-Mar-11	Chequered Swallowtail	<i>Papilio demoleus</i>	1	Lake Colac (Victoria)	BTHaywood
03-Apr-12	Chequered Swallowtail**	<i>Papilio demoleus</i>	1	Penambol Conservation Park (SA)	BTHaywood
09-Dec-10	Glasswing**	<i>Acraca andromacha</i>	1	Penambol/Warreanga Butterfly Walk (SA)	BTHaywood
05-Apr-12	Tailed Emperor	<i>Polyura sempronius</i>	1	Kangaroo Flat Native Forest Reserve (SA)	BTHaywood
15-Mar-10	Small Grass-yellow	<i>Eurema smilax</i>	3	Kangaroo Flat Native Forest Reserve (SA)	BTHaywood
16-Mar-10	Small Grass-yellow	<i>Eurema smilax</i>	1	Hornan Native Forest Reserve (SA)	BTHaywood
06-Dec-10	Small Grass-yellow	<i>Eurema smilax</i>	1	Bryton Wood, Moorak (SA)	BTHaywood
09-Dec-10	Small Grass-yellow	<i>Eurema smilax</i>	1	Penambol/Warreanga Butterfly Walk (SA)	BTHaywood
07-Mar-12	Small Grass-yellow	<i>Eurema smilax</i>	1	Brookshy Lane, Mt McIntyre (SA)	BTHaywood
25-Mar-12	Small Grass-yellow	<i>Eurema smilax</i>	1	Lake Bolac (Victoria)	BTHaywood
27-Mar-12	Small Grass-yellow	<i>Eurema smilax</i>	1	Warreanga Quarry, Wye (SA)	BTHaywood
28-Mar-12	Small Grass-yellow	<i>Eurema smilax</i>	1	Poyntz St, Naracoorte (SA)	KMAcock
03-Apr-12	Small Grass-yellow	<i>Eurema smilax</i>	1	Penambol Conservation Park (SA)	BTHaywood
04-Apr-12	Small Grass-yellow	<i>Eurema smilax</i>	2	Poyntz St, Naracoorte (SA)	KMAcock
05-Apr-12	Small Grass-yellow	<i>Eurema smilax</i>	1	ForestrySA Head Office, Mt Gambier (SA)	BTHaywood

Table 1 - summary of observations during 2010 to 2012 in SE SA and SW Vic.

* = regular survey sites
** = collected

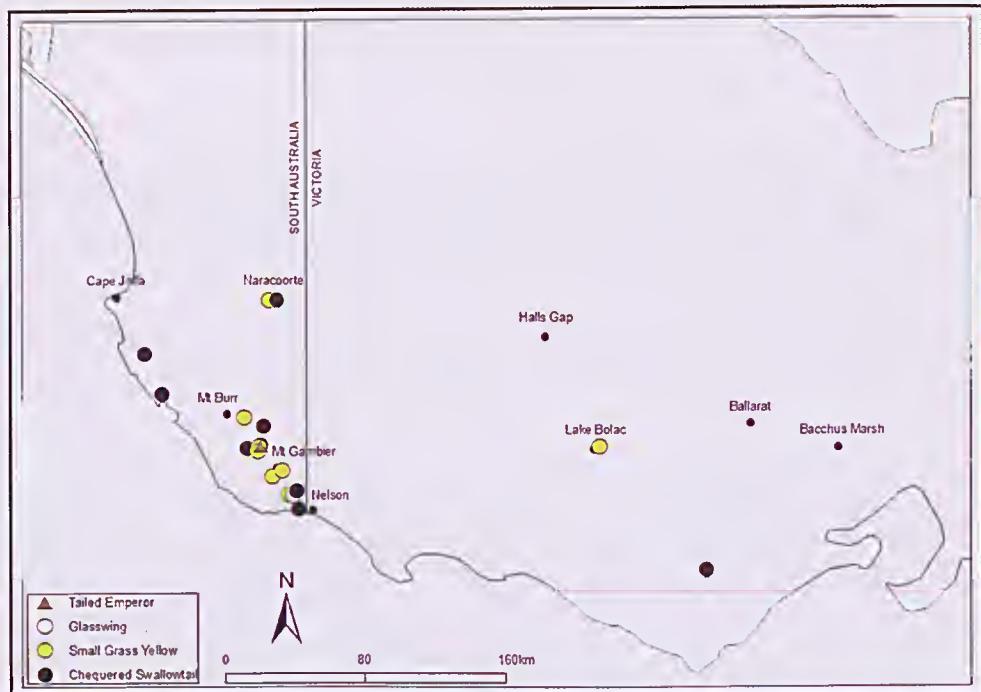


Figure 1- Map showing distribution of observations during 2010 to 2012 in SE SA and SW Vic.

Summary of rainfall maps during the observation periods from the Long Paddock website (Figures 2-3)

2010-2011

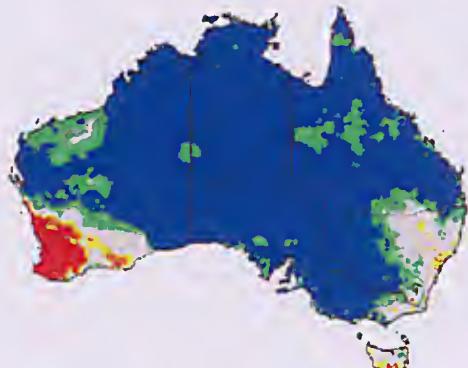


Figure 2

2011-2012

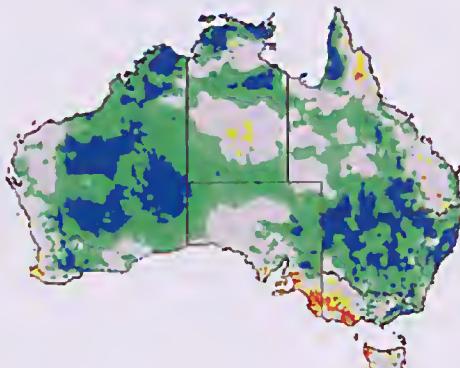


Figure 3

Summary of past rainfall maps from the Long Paddock website (Figures 5-8).

1916–1917

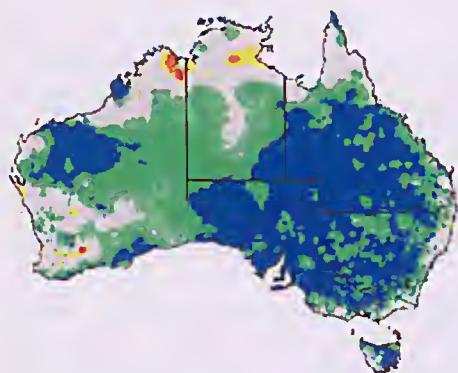


Figure 4

1920–1921

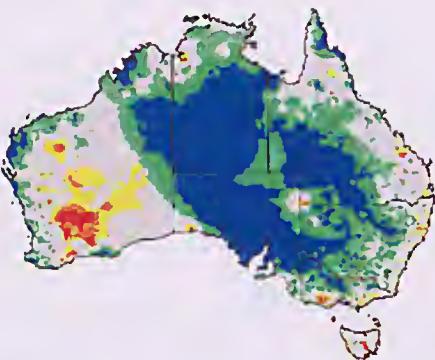


Figure 5

1954–1955

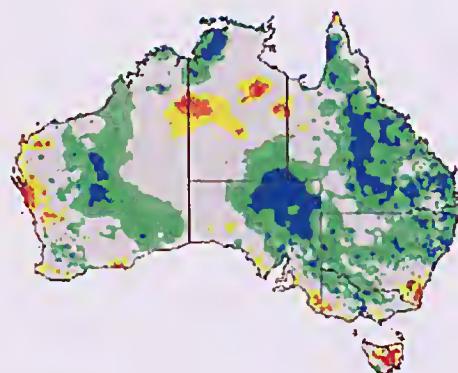


Figure 6

1973–1974

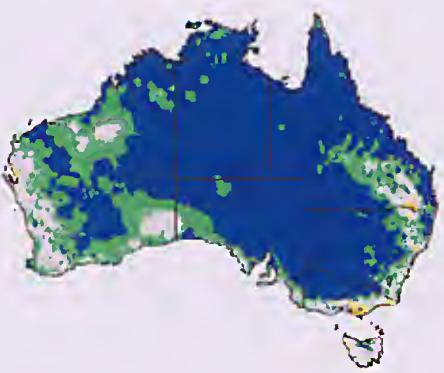
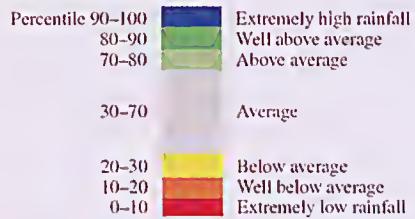


Figure 7

Key for figures 2 - 7



Source: www.LongPaddock.qld.gov.au, Queensland Department of Science, Information Technology, Innovation and the Arts.

Discussion

Faithfull and Dunn (2012) document how *P. demoleus* was believed to be on migration during the period November 2010 to early 2011 which is conceivably in close correlation to the above average rainfall events occurring within the normal breeding range of this species causing it to move south with the prevailing winds.

Hatch (1977) came to a similar conclusion about the appearance of the *P. sempronius* into Adelaide over the November period in 1973. Quick (1974) acknowledged how the appearance of *P. sempronius* into Adelaide was as a result of high rainfall events occurring in the normal breeding areas causing the species to migrate.

A population of *P. demoleus* did establish itself around Adelaide where it still occurs today (Grund, 2013). Glasswing *A. andromacha* also arrived in Adelaide in the 1973-4 season but hasn't survived, and very few records have been reported since this time except one in November 2010 in the northern Flinders Ranges (Grund, 2013).

E. smilax is known to occur in large numbers in southern SA due to monsoonal rains (Grund, 2013) however previous to the 2010-12 period author records date back to October 2003 and October 2001 of only a few individuals. The large number of records in this paper complements those reported by Hewish (2013) for 2010 and 2012 for southern central Victoria and highlight that the influx observed near Bacchus Marsh was much broader and further evidence that dry inland species often make it to coastal areas.

Spotted Jezabel *D. aganippe* which is a resident to the region (SE SA and SW Vic) was found in numerous locations and in some cases large numbers exceeding 20 individuals per location. Breeding was observed in the Cape Jaffa area (on *Santalum* sp.) with pupation then emergence of adults occurring during autumn 2011 (V Natt, pers. comm, 2011).

Extremes in weather can cause wildlife species to move (not just invertebrates). Let's hope the Long Paddock website and associated data (in the form of the national rainfall maps) is seen to be a useful tool for gaining a better understanding of nature's wonders.

Acknowledgments

Vicki Natt, Jean Haywood, Angela Jones, Kathy Bell and Helen Bawden for providing details of their observations. Peter Hudson Collection Manager (SA Museum) for access to historic butterfly records. Alan Peacock from Queensland for permission to use maps from the Long Paddock Variable Rainfall chart. I thank the two anonymous proofreaders for their constructive advice towards finalising this article.

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Book Review of Australian Longhorn Beetles (Coleoptera: Cerambycidae). Volume 1. Introduction and Subfamily Lamiinae, by Adam Śliwiński and Hermes E. Escalona. CSIRO Publishing, Melbourne. 504 pp.

Reviewed by Dr Laurie Cookson



This is a beautifully presented A4-sized book on the Australian Lamiinae. From the striking photo of *Rhytiphora pardalis* on the front cover, to the pleasing fonts and colour coordination in the text, and the wealth of perfect colour photographs we gain a comprehensive account of the diversity that can be found in this subfamily of long-horn beetles. The first of three volumes on the Cerambycidae, it includes an introduction to the broader family along with key to subfamilies. The book also provides detailed descriptions of morphology for adults, larvae and pupae. The introduction provides interesting pages on longhorn biology and ecology, their economic importance, and general information on geographic distribution.

As an amateur insect taxonomist, the other recent book on my shelf for sorting Lamiinae is by Matthews 1997, but as he concentrated on South Australian species we could only sort to 17 genera, a limited number considering their mainly tropical distribution. This new volume provides details and key for all 74 Australian genera, three of which are new. I spent a pleasant afternoon sorting my 50 Australian species into 15 genera (alas, no new genera here) using a key that was easy to follow. The authors bypass sorting into tribes, as those designations are 'artificial and should be abandoned.' A very welcome feature was the printing of keys on the right-hand pages while all appropriate illustrations were on the adjacent left-hand pages, negating the need for page-flipping. I did come across two blemishes. In step 34 the couplets are the same, although it is obvious that the features are correct for *Peutacosmia* and not meant for progression to step 35 (when the opposite will do). Similarly, the first couplet in step 61 giving *Microlamia* is a repeat of step 60 that has already given *Paressius*. The latter is correct so *Microlamia* must result from the opposing alternatives to the second couplet in step 61.

The determinations made in the key are easily confirmed as all genera are listed in alphabetical order which makes up the bulk of the book. For each genus there is full diagnosis, description and species list along with some paragraphs on biology and distribution. There is also at least one habitat photo from a species within each genus, usually more, along with the detail of various dissected segments. One curious omission from the *Batocera* species list was *B. wallacei*, perhaps our most famous 'Australian' species as mentioned in older texts because of its size. I did check with one of the authors, and apparently its taxonomic position in Australia is still in question.

The book contains three appendices, the first two giving new synonymies and generic combinations. Appendix 3 gives photos of the numerous type specimens examined. I would have liked these photos to have been linked directly to their species when mentioned in the text, as they are named in the appendix by their original type names (i.e. none of the author names are in brackets) so that if genus has changed they become difficult to relate back to the modern treatment. A search of the species index will help and is well worth the effort.

As a reviewer I have searched for some improvements to suggest, but they are minor points. This is another quality book by Adam Śliwiński, along with the one on coccinellids, and with Hermes Escalona they have produced an invaluable and superbly illustrated resource for the Australian Lamiinae. Such texts are like gold mines to amateur and professional entomologists, and I can highly recommend it to anyone with an interest in beetles.

Observations on Carrying Pair Behaviour among Asia-Pacific Butterflies (and Moths): Part V – Field diary extracts continued

Kelvyn L Dunn - email: kelvyn_dunn@yahoo.com

Pieridae

Belenois java – 11km NW by N of Longreach, Qld, Australia. [23°22'02"S, 144°11'30"E, 202m asl.] 05 Oct 2012, 1005-1040h AEST (duration of visit). Habitat: Woodland with *Capparis* and flowering *Amyeuta quauda* on Acacia. Weather: sunny, 27°C with 20% relative humidity. Three (3) mating pairs present, each involving forms of the female that approached the classic dark form. CP=M. First couple: 6 flights; second couple: 5 flights; third couple: 1 flight (in canopy). Both male carriers of first and second couples struggled to get airborne again once grounded (i.e. on bare ground, not on foliage above ground). All couples were perched on *Capparis lasiautha* R.Br. ex DC. (Capparaceae) and had likely mated on that vine, which also bore pupae of the butterfly; two newly emerged males were present on the same plant between 1010-1040h, one drying its expanded wings and the other in process of expanding its wings, circumstantially indicating that coitus was linked to a site of emergence or egg-laying. (Usage of *C. lasiautha* as a larval host in central western Queensland appeared rather selective, with concentrations of adults about particular plants, which seemed unusually favoured over others).

Nymphalidae: Danainae

Danaus petilia – Walker Creek, 28km NNE of Normanton Qld, Australia. [17°28'16"S, 141°10'48"E, 25m asl.] 13 Oct 2012, 1350-1710h AEST (duration of visit). Habitat: dry vine thicket in gallery forest. Weather: sunny & hot, 37°C with 20% relative humidity. Two (2) mating pairs present; CP=M (first couple 2 flights; second couple 0 flights). First couple, seen in flight at 1400h; it landed about 2m up on dry twigs. After the next flight, with uppermost adult (the male) again acting as carrier, couple remained undetected in dense shrubbery. Second couple sighted briefly in late PM in same general area; time not recorded but probably after 1600h. Wing conditions not recorded; no flights inspected to determine carrier.

D. affinis – Wilson Beach, ESE of Proserpine, Qld, Australia. [20°28'21"S, 148°43'39"E, 10m asl.] 3 Nov 2012, 1415-1425h AEST. Habitat: mangrove ecotone, near residential area. Weather: sunny & hot. Two (2) mating pairs encountered. CP=M (First couple: 2 flights. Second couple: 2 flights). First pair found at 1415h, upon entry to habitat; both sexes were in moderate condition. Due to height and difficulty for close observations (it perched twice 4-5m up in mangrove canopy), it was gently captured by net to release nearer ground level, in open area, to coax and study further flights but the participants separated immediately upon netting (probably to enable escape, but mating may have been close to completion). Second pair: found about 5 minutes later; male in fresh condition and female in moderate condition. Couple was lost from view in dense mangroves after second flight.

Nymphalidae: Nymphalinae

Junonia villida – Arthurs Seat, near lookout tower, at summit picnic ground, Vic., Australia. 19 Apr 2010, 1420h AEST. CP=F (6 flights). Habitat: grassy woodland. Weather: sunny period amidst smoky haze from controlled burn-off, about 26°C. Couple first seen airborne (flying at 1m above ground) but quickly settled on low foliage in sunshine. The smallish female, in fresh condition, was uppermost with her wings held in wide basking stance. Her male (DSF) was small and worn, and kept his wings held closed. Similar stances were maintained on each landing; couple landed with female uppermost on all occasions and both sexes grasped substrate. Couple settled on grass, fallen twigs on the ground, low shrubbery and foliage on a lower branch of a tree (eucalypt). Flights ranged from 1-2 metres from previous perch, and variably 0-2m above ground. Couple was not wary – uppermost adult (female) easily enticed to walk onto observer's forefinger on tactile contact with anterior legs. Manipulations: upheld finger (then serving as the substrate) was downturned so that the female became lowermost and male uppermost. Couple did not realign by walking and rotating, and when the male was provoked into flight by physical disturbance, no alternation in carrier choice resulted. Instead, female carried and landed a short distance away, with herself aligned uppermost again. This mating presumably linked to a foraging site, but larval food plants (undetected) may have been close by as adults were locally abundant. The majority of adults were notably undersized – reports of broods of undersized individuals exist in literature (eg. Lower 1893) and may be linked to larval

food quality or availability; some adults fed at nearby flowers of a *Microseris* daisy but the conjugal couple was not seen to feed. Although several males were actively patrolling and perching within a 5m radius of the perched couple, none inspected it.

J. vittida - 1.5km ESE of Riddells Creek Vic., Australia. 10 Feb 2011, 1210h AEST. CP=F (6 flights). Habitat: remnant native grassland. Weather: sunny period. Couple first seen in flight, about 1.5m above ground; it settled near top of sunlit dry grass stem. Female (in fresh condition) positioned uppermost, with her wings held in wide basking stance; her smaller male partner's wings (in moderate condition) remained closed. Couple landed with female uppermost on all occasions; male largely suspended, but temporarily grasped substrate on one or more occasions; similar stances maintained on each landing. Flights ranged 6-12 metres from the previous perch and were variably 1-2m above ground. Couple seemed wary at first and flew when approached within 1m. After the sixth flight, it seemed less vigilant and less intent on departure. Following desensitisation (presupposed) to observer's presence the couple could then be approached very closely (V). Adults were locally abundant, with males basking on the ground, with wings held widely open. Mating linked to a site of male territoriality.

Nymphalidae: Satyrinae

Citoueura minyas - adjacent Tuart Forest National Park: near Capel at Higgins Rd, 5km in beeline east of Forrest Beach boat-ramp, WA, Australia. 29 Oct 2008, 1110h AWST (locally 1210h WA-DST). CP=F (6 flights). Habitat: grassy open forest. Weather: sunny period prior to showers. Couple settled on sunlit wooden debris amongst grass with wings held closed. Lengthier flights extended up to 10m, reaching heights of 30-60cm above ground. An intruding male approached settled couple and fluttered in very close proximity for extended periods. In doing so it thwarted their camouflage. Courtship and foraging behaviours: Adults were prolific at this site enabling observations of two courting couples as well. When approached by aerial males, the first female gently fluttered above grasses (possibly in oviposition flight), but the second female, once pursued, quickly settled on the ground with wings held closed. Both female responses may serve as visual rejection signals; olfactory cues (pheromones) were also likely involved in signalling refusal; on both occasions, the two males departed quickly. Solitary males were seen feeding close by at a flowering tree, a *Leptospermum* sp., at 1120h so mating seemed associated with both an oviposition and foraging site in this instance.

Heteronympha merope - 7km W of Traralgon, Vic., Australia. 07 Dec 2009, 1200h AEST. CP=F (3 flights). Habitat: native grass- and sedge-lands. Weather: sunny, 29°C. Couple landed on sunlit grass, with female uppermost, and both sexes (which were in fresh condition) held wings closed. The first and second flights were low and short, and ranged 3-5m between landing sites. By the third disturbance couple appeared wary; it flew higher, at 5m above ground, and continued for about 50m whereupon it was not found again. This lengthier flight (after repeated disturbance) seemed linked to an escape strategy - a long and direct flight has resulted under similar circumstances in other butterfly groups, such as *Zizina*, *Nacaduba* (Dunn 2011) and *Papilio* (this paper). Female's hind-wings, being larger than those of her partner, cloaked most of the male's wings during coitus - this presumably enhanced their camouflage and gave an impression of a single settled female - only the male's body (head and thorax) was visible at the rear of the female's hind-wings.

H. merope - Kooyoora State Park at 36°37'06"S, 145°42'32"E, Vic., Australia. 04 Dec 2011, 1215h AEST, L. Rogan. CP=F (1 or more flights observed). Habitat: dry box-ironbark woodland. Weather: sunny. Couple found settled on ground with no clear alignment at that time; male showed slight to moderately wing-wear, female was fresh conditioned. Another male (fresh condition) then fluttered above couple, intruding to within a few centimetres. Intruder then landed about 1cm from the anterior end of the female, and with his wings held in V-shape, his foreleg tarsi made tactile contact to her right-side hind tibia and head, whilst she remained in copulation with the original male. Both coital adults kept their wings held closed. Intruding male then nudged female's posterior end with his head and fluttered his wings rapidly against the already coupled female (likely dispersing pheromones). Intruding male then approached copulating male from rear, wedging his wings between the female and her mate's wings, perhaps attempting to make genital contact himself or to encourage their

physical separation by splicing. Alarmed, female then fluttered wings – a typical response given when startled – that then forced intruder backwards. Female then carried her mate to a nearby branch of a tree. Couple then resettled in shade on tree trunk, amidst tangled branches, stems and dry twigs with female aligned uppermost. Selection of a denser microhabitat seemed linked to an escape strategy. (Behaviour described from comprehensive photo sequence supplied by L. Rogan).

Acknowledgements

I thank Linda Rogan and Geoff Walker for sending photos of mating butterflies for perusal. Dr Russell Best kindly identified the larval host of *B. java* near Longreach Qld from photographs of flowers, foliage and plant growth form.

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Figures 1 & 2. The *P. demoleus* mating pair, found at 25km NNE of Charleville, Qld., was gently coaxed on tree foliage where it was more exposed and better positioned for photography. Of choice, though, it regularly perched on and amidst tall stems of Mitchell grass after each nuptial flight, often low to the ground. It was first found on a mat of dense grass sheaths and stubble on the ground, curiously tilted horizontally (not perched upright) and motionless, as if 'playing dead', below a dry grass clump. The dry grass, providing a thicket beyond the road shoulder, seemingly offered suitable camouflage.

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DIARY OF COMING EVENTS

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Tuesday 18th February
Melbourne Museum
Speaker: Dr. Martin J. Steimbauer F.R.E.S.
Two new species of native psyllid
Note 7:45 pm start

Tuesday 18th March
Council Meeting

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